Bandwidth - VRS and Mobile VOIP 911 Developments

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Proposed Agenda

- Primary VRS 911 Call Flow
- Mobile VRS 911 Call Flow
- Mobile 911 standard Call Flow
- Class of Service and Challenges
- Upcoming Enhancements

Primary VRS 911 Call Flow

1. VRS provider registers phone number and addresses of their customers with Bandwidth
2. Deaf or hard of hearing subscriber initiates call to VRS provider
3. Relay operator at VRS provider accepts the call
4. Relay operator “bridges” Bandwidth into the call, passing subscriber’s phone number to Bandwidth
5. Bandwidth uses subscriber’s phone number to lookup address and send call to the PSAP
6. Subscriber communicates with relay operator, who translates for the PSAP
7. PSAP dispatches help to the subscriber.

Mobile VRS 911 Call Flow

1. VRS provider registers phone number with Bandwidth
2. Deaf or hard of hearing subscriber initiates call to VRS provider
3. Relay operator at VRS provider accepts the call
4. Relay operator “conferences” Bandwidth into the call, passing subscriber’s phone number to Bandwidth
5. Bandwidth notes account for phone number is configured to always be answered by our Call Center.
6. Bandwidth sends the call to **our Call Center**
7. Subscriber communicates with relay operator, who translates for the Call Center
8. Call Center determines location of caller and transfers call to PSAP
9. Caller continues to communicate with relay operator, who now translates for the PSAP

Non-VRS X-Y 911 Routing

1. Customer registers phone number with Bandwidth
2. Subscriber calls 911, and customer delivers mobile location as lat-lng in a proprietary SIP header
3. Bandwidth uses lat-lng to send call to correct PSAP
4. No address associated with the call, so , aside form lat-lng, Bandwidth only delivers the subscriber name to the PSAP, with text to indicate it's a mobile call, e.g.,

   SUBSCRIBER NAME MOBILE GPS LOCATION -- LAT LNG AVAILABLE
5. Bandwidth uses WPH2 or VMBL COS in ALI response depending on jurisdiction

Challenges with Class of Service

- Experience varies depending on the PSAP's call processing equipment
- Few PSAPs support VMBL
- Some PSAPs won't display coordinates if COS is WPH2 but pANI is an ESQK
- Two new COS designations – WCVC and WDSP
- PSAPs will need to be trained on the new COS, and CPE behavior needs to be updated

Upcoming Enhancements

i3 standards for location delivery

- Accept PIDFLO on ingress from customer and send PIDFLO to i3 PSAPS
- Market driven by customers who want call-time flexibility when delivering location, or products like [redacted] (formerly [redacted])
- Industry driven as PSAPs converting to i3
- Timeline: PIDFLO accepted from customers in early [redacted]. PIDFLO sent to i3 capable PSAPs late [redacted].

Location updates for mobile VoIP

- Provides PSAP ability to get updated location during ALI rebid.
- Initial support for i2 ALI rebids, LIS-based support in future phases for i3-capable PSAPs
- Timeline: Early [redacted].

Reverse geocoding for X-Y 911 routing

- Provides a nearby civic address for PSAPs who don't support VOIP Mobile COS, or who otherwise won't display VOIP coordinates for a VOIP call.
- Market driven by customers pushing to use mobile VOIP
- Risks: adds time to call setup; address may not be useful for dispatch
- Timeline: Late [redacted].

Support new COS designations

- Currently working with industry to define new class of service designators.
- New WDSP and WCVC designations indicate the level of uncertainty for provided address.
- Timeline: Industry driven as PSAPs update equipment to support new COS fields.

Thank You!

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